SPECIAL BULLETIN

PREPARED AND APPROVED BY

The University of Minnesota, Montana State College, North Dakota Agricultural College, South Dakota State College, and University of Wisconsin in co-operation with the United States Department of Agriculture.

FLAX

ASK YOUR
COUNTY AGENT
OR
AGRICULTURAL
COLLEGE

FLAX AS A FARM CROP IN 1938

By
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Department of Agriculture

The outlook for flax in 1938 appears exceptionally favorable for the American farmer from the standpoint of supply and demand. In planning his farm operations the flax grower should consider (1) the world supply, (2) the domestic demand for flaxseed, (3) the market outlook (price) of flaxseed as compared with other crops which he can grow, and (4) the suitability of his land for flax.

THE WORLD SUPPLY

The December estimate of the United States flaxseed crop of 1937 was 6,974,000 bushels. This was an increase of 1,701,000 bushels over the very small crop of 1936, but less than one-half of the average production of approximately 16,000,000 bushels during the years 1928 to 1932. The present Argentine crop is estimated at 62,398,000 bushels. This is about 14,000,000 bushels less than the crop of last year. The production in India is not likely to exceed 16,000,000 bushels, the average production in recent years. The world supply of flaxseed for export during the year ending June 30, 1938, probably will be materially less than that of the preceding year, as a result of the smaller Argentine crop.

DOMESTIC DEMAND FOR FLAXSEED

Crushings of flaxseed in the United States in 1937 have been the largest since 1929. The consumption of flaxseed has increased steadily since the low point in 1932, when less than 21,000,000 bushels were consumed.

It appears that the demand for flaxseed in 1938 is likely to be about the same as in 1937, when about 32,000,000 bushels were consumed. Because of drought and other factors, domestic production has been far below normal since 1930, and imports of flaxseed have been heavy. In the year ending June 30, 1937, over 26,000,000 bushels of flaxseed were imported. Calculated at a farm price of $1.75 per bushel, this 26,000,000 bushels of imported flaxseed represents a sum of $45,500,000.00 for a product which can be produced on American farms.

It is believed that flax growers in the United States

can safely produce 75 or 80 per cent of the total annual requirements of the linseed industry and still obtain nearly the full protection of the tariff. 3,000,000 acres of flax at an average yield of 8 bushels an acre would produce 24,000,000 bushels, or about 75 per cent of the total consumption in 1937. Only twice during the past 20 years has domestic production exceeded 24,000,000 bushels. In 1924, an average yield of 8.8 bushels per acre on 3,535,000 acres harvested produced 31,220,000 bushels, and in 1927 a yield of 9.1 bushels on 2,763,000 acres produced 25,174,000 bushels. In 1924, the domestic crop represented 71 per cent of the total consumption (43,945,000 bushels) and the average farm price was $2.18 per bushel. In 1927, the crop was 58 per cent of the total consumption (43,231,000 bushels) and the average farm price was $1.92 per bushel.

THE MARKET OUTLOOK FOR FLAX

It is, of course, impossible to predict what the price of flaxseed will be when the domestic crop of 1938 comes on the market. However, market conditions at this time (February) indicate a continued strong demand for flaxseed. The small domestic supply of flaxseed, together with the short crop in Argentina, points to a continued firm price in the near future. The reduced imports in recent months and high prices of Chinawood and Perilla Oils also are strong factors in favor of the demand for linseed oil. Linseed oil is by far the most important drying oil used in the paint, varnish and linoleum industries, as it supplies from 60 to 75 per cent of the total drying oils used in these industries. Chinawood Oil, which usually supplies 15 to 20 per cent of the total, is perhaps second in importance, but the Sino-Japanese war has shut off imports of this oil. Perilla, soybean, and fish oils, each supply from 2 to 5 per cent of the total used in the drying oil industries.

MORE FLAX OR MORE WHEAT—WHICH?

The present prospects indicate a considerable increase in wheat production. The prospective yield of winter wheat will be better known before seeding time for spring grain, and the flax grower then can decide whether to seed his usual acreage of spring wheat or increase his acreage of flax. In 1937, the acre returns from flax averaged higher than from spring wheat, even though wheat prices were relatively high. The United States produces a surplus of wheat but a short supply of flax. Some increase in flax acreage would seem desirable. This would help supply the increased demand for flaxseed and perhaps reduce to some extent the surplus of wheat.

FLAX FOR THE NORTHWEST

By H. L. Walster,
Dean of Agriculture, North Dakota Agricultural College.

Flax has made millions of dollars for the farmers of the Northwest in the days since the virgin prairie was first broken. Given good management with respect to choice of seed, choice of soil, soil preparation, date of seeding and crop sequence, flax will continue to make millions of dollars for the Northwest. The oil casks of the nation must be filled. They are either going to be filled with oil pressed from seed from foreign shores, or with oil crushed from home-grown seed. We have the soil; we have the varieties; the methods of production are known. Those who choose to enter this enterprise will find good guidance within the pages of this publication. No crop has ever been more carefully studied.

The flax crop provides needed diversity in the great cash crop area of the northern plains. Flax, better than any other crop, is the ideal companion crop for tender grasses, alfalfa, etc. Its root residues left in the soil are good soil binders. The crop can be handled with those types of machinery common to all farms in the northern plains. No special machinery is required. Let's go forward in flax production in 1938.

FLAX IN MINNESOTA

By
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and
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Division of Plant Pathology and Botany

GROW FLAX IN GOOD ROTATIONS

The flax crop does not ordinarily grow as tall as wheat or oats and it does not shade the ground as completely. Therefore, it is less able than wheat, oats or other grains to compete successfully with weeds growing on the land at the same time. Also the seeds of flax are relatively small and the young seedlings somewhat less vigorous than those of the grains. Mainly for these reasons, flax does best on land that is fairly free from weed seeds and weeds and where it can be sown at the proper time on a firm, well-prepared seed bed.

In trials at University Farm over a period of years, flax has averaged 15.0 bushels per acre following corn; 14.1 bushels following legumes; 9.6 bushels following grasses; and 8.6 bushels following grains. These re-

sults indicate that the best place in rotation for flax is following corn. Sugar beet land is satisfactory also. The next best place in the rotation for flax is following legumes. However, on Minnesota farms this place in the rotation is usually given over to corn and rightly so. Minnesota produces approximately 4,000,000 acres of corn annually. It is on this land that the largest acreage of flax should be grown. When flax follows itself or grain crops, the lowest average yields per acre are obtained.

ARRANGE FOR SEED EARLY EACH YEAR

The flax crops in past years have been marketed largely in the four-month period, September to December, inclusive. All too often so high a percentage of each crop is marketed during this short period that scarcely enough is retained at home from which to prepare the necessary good seed for use the following year. Now is the best time to consider the seed situation. If there is seed on hand, look it over to determine whether it can be brought into a first-class condition by use of the fanning mill. If not, make arrangements immediately for the necessary supply. The best seed is usually purchased first, leaving the poorest for those who secure their supply later. With some increase in acreage in prospect in 1938, it is very important to arrange for seed early. High class seed is **free from admixtures of all kinds, high in germination, and of a high yielding variety.**

QUANTITY OF SEED NEEDED

Increased yields of one bushel per acre have been obtained in the central and southern parts of Minnesota in state-wide trials from seeding 42 pounds of flaxseed per acre over seeding at the one-half bushel rate. In the Red River Valley, however, one-half bushel of high-grade seed per acre has given as good results as a higher rate of seeding. Bison seed is approximately one-third larger than the seed of other varieties grown in Minnesota. Therefore, the amount of seed of this variety used should be proportionately greater.

SEED OF DISEASE-RESISTANT VARIETIES WORTH A PREMIUM

For a considerable number of years the greater proportion of the flax crop in Minnesota has been necessarily grown on old land with consequent greater damage from weeds and disease than when it was grown on new breaking. When flax is grown on land that has previously produced this crop, the only assurance

growers can have that their crops will be comparatively free from serious flax diseases is to purchase from reliable sources seed of varieties that are known to be resistant to diseases. Practically the only way to be certain of securing seed of a disease-resistant variety is to purchase (1) registered, or (2) certified seed. The Minnesota Crop Improvement Association and similar organizations in the other flax producing states publish yearly or oftener certified seed lists giving the names and addresses of growers, with information regarding varieties grown and amounts for sale. These lists may be had each year by writing to the experiment stations for them.

The varieties of flax recommended for use in the state are Bison and Redwing. These varieties have proven to be the highest yielding varieties in the state. Each one is resistant to both the wilt and rust diseases.

Seed imported from Argentina should not be sown in Minnesota. Crops from it have averaged three to four inches shorter than those of the recommended varieties and hence it is less able to compete with weeds. Only when conditions are exceptionally favorable does the Argentine flax yield as high as the recommended varieties. Argentine flax is particularly subject to damage by the comparatively new disease, pasmo. This disease appears to be borne on the seed to some extent and apparently may be spread in that way.

PREPARATION OF SEED BEDS

The flax crop does best when sown on seed beds that are firm underneath and well pulverized to a depth of two to three inches and level at the surface. Fall plowed land, particularly meadows and pastures and cornfields that have been kept fairly free from weeds the previous year, provide the firm seed beds.

The amount of surface tillage necessary in spring to pulverize and level the surface depends on the kind and condition of the soil. Some fields need only harrowing while others require shallow disking or spring toothing followed by harrowing prior to seeding in order to put them in proper condition.

Early cultivation to cover such weed seeds as wild oats and lamb's quarters and start them to germinating is necessary where fields are known to have many such seeds present. Subsequent cultivation kills the seedlings.

Spring plowed land must either stand long enough to become firm underneath before the seeding is done or it must be packed. Using the disk set practically straight aids in doing away with the air spaces in spring plowed land.

SOWING EARLY RESULTS IN HIGHEST YIELD

Early-sown flax makes enough growth to hold in check foxtail, barnyard grass, and redroot pigweed, the seeds of which do not usually germinate until during the first part of May. Wild oats, lamb's quarters, wild buckwheat and perennial weeds are not controlled by early seeding of flax.

Disease resistance in flax varieties is only relative. Flax sown early makes much of its growth when temperatures are unfavorable to the development of the diseases.

The number of bolls and seeds per boll is greater on early-sown flax plants than on those from late seedlings. This results in higher yields from the earlier seedings.

Flax may be sown at the same time or immediately following grain crops with little or no danger from killing by frost. Flax plants in the seedling stages and later can stand temperatures as low as 25° F. or slightly lower without being injured.

Delay in seeding flax until after corn planting time usually results in difficulties with foxtail (pigeon grass) and redroot pigweed unless the fields are kept free from weeds by cultivation up to seeding time. Seedings made a week or ten days later than corn planting time usually average considerably lower in yield than those made in April or early May.

FLAX FOR SOUTH DAKOTA

By
A. N. Hume, Agronomist and Superintendent of Sub Stations

Attention is called in this bulletin in the statement by Mr. Dillman to the world-wide interest in flax, as a staple crop.

Nearer home, the production of flax, specifically increased production thereof, is a matter of concern to the United States of America, for the reason that domestic production has fallen far below consumption.

Still, nearer, northwestern states, including South Dakota, will obviously increase flax production, providing the crop in question is to retain a place in regular cropping systems. It is necessary for this region to do that in order that flax and flax products may keep going through channels of trade, and have any continuous market.

THE GROWER IS CONCERNED

Every individual grower has a right to feel some personal concern in flax, for the reason that once flax

became no longer an industry, but just a crop produced once in a while upon occasion, it would be no longer an outlet for farm organization, nor would it be one source of farm income. This is thinking not alone of the present, but of seasons to come.

There are substitutes for flax and flax products. None are so available for northwest farms. It is nearer possible for the area, including South Dakota, to retain a partial monopoly of flax production than of any other staple crop, not excepting hard red spring wheat.

PRODUCTION TIMES PRICE?

This writer just now requested our Department of Economics to give comparative South Dakota yields per acre and farm prices for flax, and all wheat, for the five-year period ending in 1937. As growers, we know that no yields have approached maximum, and we know the reasons why.

The matter we as growers may overlook is that South Dakota's flax yield times price for five years equals $5.38, whereas for all wheat the same equals $5.09. The foregoing average is twenty-nine cents per acre in favor of flax, whatever that may mean.

FLAX FACTS

Several precepts should be kept in memory by each grower who will put in some flax this spring:

1. Think the problem through with flax as with any problem of the farm.
2. Sow flax on land of known productivity, on a par with wheat or other small grain, as a unit part of the small grain acreage.
3. Sow seed of a northern-grown, disease-resistant strain; the kind one hopes to reap and sell for seed in turn.
4. Bison flax will answer for variety, or Redwing.
5. Seed seasonably early—April 15, getting seed now, to have it ready.
6. Sow forty pounds of seed per acre, if seed is plentiful.

It isn't plentiful; sow thirty pounds or less this year, but on a clean seed bed free from weeds.

Plan to raise some flax in South Dakota for a carefully selected crop in 1938. More than that, raise some seed for 1939; and thereafter.

GET SEED IN TIME

In order to seed any flax it is, of course, necessary to have seed available. It is recognized that conditions, some of them economic, have made it difficult to pur-

chase seed of this particular crop. That being the case, other crops have sometimes been planted while flax has gone by default.

That may go further toward explaining a decreased acreage of crop in question, rather than difficulties of production. Figures indicate that flax, once attempted under equal conditions with other crops in South Dakota, has responded equally well or better than those other crops.

This is to suggest that in case arrangements for securing seed are likely to require time, the arrangements be made early, so that date of seeding will not be delayed.

BECAUSE SEASONABLE SEEDING IS IMPORTANT

If it has been sometimes difficult for growers to get flax seed on hand for putting in April 15, or soon thereafter, delay has caused reduced yields. A delay of a week in seeding after the option date of April 15 (or as soon thereafter as possible to get onto the ground) causes a bushel per acre lower yield. Such may not be anybody's fault. It is just a fact. Delay in seeding flax may have caused lower yields in recent seasons, and helped to discount flax as a crop in South Dakota.

Seasonable seeding will help restore success with the crop under discussion.

FLAX MAY WIN WITH A HANDICAP—BETTER WITHOUT

Many South Dakota growers remember when flax was a "new land crop." It could grow on newly turned sod. It was often seeded on such new land until the land was "broken in," and rendered fit for other crops. Flax took a secondary place. To some extent it retained such secondary place in cropping systems. Perhaps without much thinking it became almost customary to seed a little flax somewhat late in the season, and after other crops occupied the best land. That may have been the best management all around—the point here is that flax could not and did not make its maximum returns under the circumstances. Even at that, flax made a little higher money-return than wheat over the last five-year period. This is to say that with flax making a fair return under some apparent handicap, often with late seeding on less productive land, it will make a better return seeded betimes on choice land as part of a carefully arranged cropping system.

Experiments in South Dakota prove that flax on a clean cultivated seed bed, such as land previously in

corn, will often yield twice as much as flax on weedy land. Flax does not compete with weeds successfully.

Putting in a reasonably small area of flax, on clean, cultivated land, will help keep this valuable crop for a valuable part of South Dakota cropping systems. We have no crops to lose.

GROWING FLAX IN WISCONSIN

By

A. H. Wright, Agronomist, College of Agriculture

Flax is particularly well adapted to the heavy clay soil areas of the east central section and the extreme northwestern corner of the state. The crop is not adapted to the sandy soils of the central counties and is rarely grown in the southwestern section. Peat soils except new "breaking" are not suitable for flax.

Weeds are the greatest handicap to flax growing in Wisconsin and it is very important to use clean seed and sow it on soils that are reasonably free from accumulations of weed seeds.

When grown on suitable soils flax yields well in Wisconsin and is a very useful cash grain crop in this state.

Wilt-resistant varieties should be used. Practical experience indicates that both the Redwing and Bison varieties are well adapted to Wisconsin.

The rate of seeding used in Wisconsin is greater than that used in the more western states. Three pecks an acre is the usual quantity seeded.

FLAX IN MONTANA

By

Ralph D. Mercer, Montana Extension Agronomist

During the drought years (1930-1937) the acreage of flax grown in Montana has been reduced each year. In 1937, the total acreage reached a new low with 10,000 acres harvested and a production of 25,000 bushels.

Lack of moisture and desirable seed beds have been responsible to some degree for this reduction. With a continuation of unfavorable moisture conditions, attention has been directed by flax producers to crops that showed greater possibilities of producing under adverse conditions.

While fall and winter precipitation has materially improved the outlook for the spring of 1938, yet past experience has proved that without seasonal moisture, bright prospects can disappear rapidly. With soil conditions unfavorable over a long period, it will take above average rainfall to produce a crop.

Summer fallow and corn ground are recommended cultural practices for land to be sown to flax the following year. The best period to seed flax is between May 10th and 25th. The recommended rates on non-irrigated land are 15 to 25 pounds of seed per acre and on irrigated land 35 to 45 pounds per acre.

Unless the yield of flax can be increased over what it has been for the past five years, there is not much likelihood of a rapid increase in acreage. Most of the flax acreage in the state is in the northeastern section where drought and soil erosion conditions have existed for the past two years. In this area there will be very little land that is in proper condition for flax production in 1938.

IS FLAX HARD ON THE LAND?

Contrary to the ideas held by some, flax is no harder on the land than wheat or oats as far as the removal of plant nutrients from the soil is concerned. The ten-year average yield per acre of flax, wheat, and oats with proportionate yields of straw in North Dakota, Minnesota, South Dakota, and Montana are given in the following table:

AMOUNTS OF PLANT NUTRIENTS PER ACRE REMOVED IN AVERAGE YIELDS PER ACRE OF GRAIN AND STRAW

Crop	Average Yields Per Acre		Nitrogen	Phosphoric Acid	Potash	Total Lbs.
	Grain	Straw				
	Bu	Tons	Lbs	Lbs.	Lbs.	
Flax	7 7	0.83	34 7	9.6	21.5	65.8
Spring Wheat	11 9	1.32	30.1	10.9	35.3	76 3
Oats	27 8	1.10	30.4	12 9	38.1	81.4

The amount of nitrogen, phosphoric acid, and potash removed by these yields of grain and straw are included in the table. Both the seed and straw of flax are higher in nitrogen content than the grain and straw of spring wheat and oats, but the yields per acre are lower. A flax crop of 7.7 bushels with the 0.83 ton of straw removes 4.6 pounds more nitrogen per acre than a 11.9 bushel crop of spring wheat with its straw and 4.3 pounds more nitrogen than a 27.8 bushel crop of oats including straw. However, the spring wheat and oat crops remove slightly more phosphoric acid and considerably more potash than the flax crop. Except for the potash these differences are small. They show that an average crop of flax removes no more plant food from the soil than average crops of spring wheat or oats.

The general impression that flax is hard on the land has been carried down from the time when flax wilt made it impossible to grow flax continuously on the same land. Wilt-resistant varieties are now available that make it possible to grow flax at regular intervals in a proper crop rotation. It must be recognized, however, that flax does not compete well with weeds, and therefore, it is important to have clean land for flax.

DISEASES OF FLAX

There are six diseases of flax which are occasionally destructive: wilt, rust, pasmo, anthracnose, heat canker, and root rot.

Wilt often is the limiting factor in flax production unless resistant varieties are grown. The wilt fungus is spread primarily by old straw and infected seed and may live in the soil for many years. Bison, Redwing, Buda and Linota are resistant, but resistance is only relative; consequently even these resistant varieties may wilt some if sown on land previously cropped to flax or if sown too late in the spring. Early seeding therefore is recommended. Even so resistant a variety as Bison may wilt considerably if sown late, especially on flax sick soil. Early seeding also is likely to prevent damage from rust, heat canker, and certain types of root rot.

Flax rust which is entirely distinct from rusts of small grains, is sometimes quite destructive. Bison and Redwing, originally fairly resistant to rust, are now quite susceptible, because of the prevalence of virulent parasitic strains. Flax rust overwinters on old flax straw, from which it spreads to the new crop; hence rotation should be practiced and the seed should be thoroughly cleaned to remove bits of straw which often bear rust.

Pasmo is spread in much the same manner as rust and can be partially controlled by similar practices.

Anthracnose and certain root-rotting organisms are soil-borne, but they also are carried in and on the seed, often being prevalent on shriveled and cankered seed. Crop rotation and the use of clean, treated seed will reduce damage. The seed should be treated with Ceresan at the rate of two ounces a bushel or New Improved Ceresan at the rate of one-half ounce a bushel. Seed treatment is recommended as sound agricultural practice, because it kills fungi on the seed, often improves stands and may increase plant vigor. It also may protect the seed and young seedlings to some extent against certain fungi in the soil.

(Seed treatment has been a benefit to flax in Iowa and Minnesota but gives no noticeable improvement in North Dakota.)

Most of the diseases of flax do not attack other crops. From the disease standpoint, therefore, flax fits into any good cropping system.

GENERAL CULTURAL INFORMATION

WHAT TYPE OF SOIL IS BEST SUITED FOR FLAX GROWING?—In general, flax does best on moderately heavy soil, that is, a loam or clay loam or even a heavy clay. Sandy loam is not suitable except in wet seasons when moisture conditions are favorable. Flax does not have as extensive a root system as the cereal grains. Therefore, the crop does best on the

heavier soils, which are capable of holding more moisture than sandy soils.

WHAT IS THE BEST METHOD OF PREPARING LAND FOR FLAX?—Flax requires a firm seed bed. Clean corn stubble makes an excellent seed bed for flax, and only a shallow surface preparation is needed before sowing. In case land is plowed, it should be well firmed before seeding. This can be done with a disk set nearly straight or with some type of press-wheel packer. Poor stands are often due to seeding too deep. Plant only about one inch deep. Flax does not successfully compete with weeds and early planting or delayed planting to permit extra cultivations may be advisable. In North Dakota and the Red River Valley early cultivation in the spring on land infested with Russian thistle and wild oats will assist in starting these weeds and further cultivation before sowing will destroy them. On land where yellow and green foxtail and other such late germinating weeds are prevalent, sow the flax early and immediately after cultivation so that the plants may become established and have a good stand before the weeds start. In Iowa early sowing is imperative if satisfactory yields are to be obtained.

WHAT PLAN OF CROP ROTATION IS BEST FOR FLAX?—In planning a crop rotation suitable for flax, one should have in mind the principal requirements of the crop; first, a clean soil relatively free from weeds and weed seeds; second, good soil fertility, especially a readily available supply of nitrogen; and third, a firm, moist seed bed. A rotation including a legume such as clover, sweet clover, peas, or soybeans followed by corn which is given clean cultivation, and finally by flax is very satisfactory. Barnyard manure may be applied and plowed under in preparation for the corn. This extra fertility is beneficial to the corn and the succeeding flax crop.

Now that plant breeders have done much to solve the wilt problem, a proper rotation and cultivation practice appears to offer the greatest possibility of increasing flax yields. A good cropping sequence is of first importance. The following table gives a general idea of the best crop to precede flax in the different areas:

State	First Choice	Second Choice
Minnesota	Corn	Legume
Red River Valley	Corn	Clover
North Dakota	Corn	Fallow
South Dakota	Corn	Sorghum
Iowa	Corn	Sod
Wisconsin	Corn	Sod

IS FLAX A GOOD NURSE CROP?

Flax is an excellent companion crop for starting grasses, alfalfa, clover or sweet clover. The flax and grass seed, or clover, can be mixed in the desired proportions and sown together with the ordinary grain drill. Both should be sown shallow in well prepared soil. The best stands of these hay and pasture crops are usually obtained on disked or fall plowed corn fields.

As flax matures early and sheds its leaves as it ripens, the grass or clover gradually becomes hardened to the sun before the flax crop is harvested. Moreover, flax has a less dense root system than wheat or oats and probably does not draw so heavily on soil moisture as the

grain crops. In wet seasons sweet clover may grow tall enough to interfere with harvesting the flax, but this rarely occurs. A survey of farm practice indicates that flax is almost an ideal nurse crop for starting grasses or clovers. This is of special importance where new plantings of these crops are sown extensively as soil conserving crops.

WHAT VARIETIES OF FLAX SHOULD BE GROWN?

It is important to use a wilt-resistant variety on old land where flax has previously been grown. Because of its wilt-resistance, Bison flax is grown extensively. Buda, Redwing, and Linota also are sufficiently wilt-resistant under ordinary wilt conditions and these varieties are grown to some extent in the flax producing areas. Redwing is the earliest maturing variety. It is grown in southern Minnesota and northern Iowa where an early maturing variety has an advantage.

HOW CAN ONE BE SURE THAT SEED IS SUITABLE FOR SEEDING?

A germination test should be made so as to make sure that the seed is suitable for planting. Good flaxseed will germinate 95 per cent or higher. Shrunken or shriveled flaxseed may germinate very poorly. A germination test of 70 or 80 per cent should be satisfactory if a slightly heavier rate of seeding is used.

The State Experiment Stations or State Seed Departments will test flaxseed for germination if a small sample of clean seed is furnished them. In South Dakota a charge of fifty cents is made by the State Seed Department.

HOW SHOULD FLAXSEED BE CLEANED FOR SEEDING?

It is important to have flaxseed well cleaned to remove weed seeds and light weight flax. Where a farm fanning mill is available, it should be provided with screens of a proper size for grading seed and removing weed seeds. Where enough flaxseed is available, the grower should be satisfied if three-fourths of the seed is saved in cleaning and one-fourth removed in the screenings. A steel wire sieve with meshes 4 by 16 per inch (or 4 by 14 for large seeded varieties) will separate grain and the larger weed seeds from flax. A metal sieve with round holes one-fourteenth of an inch in diameter will separate small weed seeds.

WHAT IS THE BEST METHOD OF SEEDING FLAX?

The ordinary grain drill is satisfactory for seeding flax provided the soil is firm. A press drill, however, is especially satisfactory because flax germinates best if the soil

is pressed firmly about the seed. The use of a double disk drill with the chains removed also has been found satisfactory, as it places the seed at a uniform depth without covering it too deeply. Flax should not be sown in light, dry soil because the seed is sure to be placed too deep for satisfactory germination. As a general rule, flax should be sown only about one inch deep provided the seed can be put into moist soil at that depth.

HARVESTING AND THRESHING

WHAT IS THE BEST METHOD OF HARVESTING FLAX?

Flax can be harvested with a grain binder or a header and threshed with a stationary thresher. If the field is free from weeds, the crop can be allowed to stand until thoroughly ripe and harvested with a combine. If weeds are present, it is best to windrow the crop and thresh with a pick-up attachment to the combine as soon as the crop is dry. In northern sections harvesting is sometimes delayed until frost has killed the weeds. The weeds dry rapidly after being frozen and the flax can be combined in a few days after frost. This method is satisfactory provided the flax does not need to stand too long before frost. Occasionally, in wet seasons stems of the flax will continue to be green after the bolls are ripe. Under such conditions, the crop should be harvested when the bolls are ripe and left in the shock or windrow until dry enough to thresh.

IS FLAX DIFFICULT TO THRESH?

Flax is not particularly difficult to thresh if it is thoroughly dry. Care should be taken to see that the seed is not cracked or broken in threshing. This is often caused by setting the concaves too close or by returning the tailings from the sieves through the cylinder. In threshing flax the machine should not be crowded, as a good job of threshing depends upon the ability of the sieves to separate the seed. An even method of feeding will make it possible for the sieves to separate the seed from the straw and chaff. It may be necessary to cut down the speed of the machine slightly.

DOES FLAX SHATTER BADLY IF LEFT STANDING AFTER IT IS RIPE?

Flax is superior to other grains in its resistance to shattering and weather damage when left standing after it is ripe. Only when the seed is shrunken by extreme drouth is there much danger of its shattering. This makes it possible to allow flax to stand until it is thoroughly ripe when it is planned to harvest with a combine or even with a binder.

ASK YOUR COUNTY AGENT OR AGRICULTURAL COLLEGE

FLAX

Published and distributed in furtherance of the purposes of the co-operative Agricultural Extension work provided for in the Act of Congress, May 8 and June 30, 1914, by the Agricultural Extension Divisions of the University of Minnesota, Montana State College, North Dakota Agricultural College, South Dakota State College and the University of Wisconsin. P. E. Miller, J. C. Taylor, G. J. Baker, A. M. Eberle, and W. W. Clark, directors, respectively.

Printed in the U. S. A.